CLAIMS

What is claimed is:

1. A method for illuminating surfaces in computer graphics comprising the steps of:

constructing one or more finite light sources within a computer animated scene, each of the finite light sources having a finite size and a center;

constructing a plurality of surfaces with the scene, each surface consisting of a plurality of points; and

approximation of the illumination effect of each of the finite light sources by the use of a plurality of point light sources of varying intensity.

2. The method of claim 1 wherein a portion of each of the light sources illuminates each of the points.

3. The method of claim 2 comprising the further step of approximately calculating a light intensity and a light vector direction as a function of the portion of each of the light sources which illuminates each of the points.

4. The method of claim 3 comprising the further step of calculating the light intensity as a function of the portion of the light source which illuminates each of the points.

5. The method of claim 4 comprising the further step of approximating the light vector direction as a function of the portion of the light source shines upon the point.

6. The method of claim 1 wherein said finite light source is a sphere.

7. A method for illuminating surfaces in computer graphics comprising the steps of:

constructing a hemispherical light source of infinite radius;

constructing a plurality of surfaces with said scene, said surfaces consisting of a plurality of points.

approximation of the illumination effect of each of the hemispherical light source by the use of a plurality of point light sources.

8. The method of claim 7, comprising the further step of calculating a light intensity and a light vector direction as a function of a portion of the light source which illuminates each of the points.

9. The method of claim 8 wherein said light vector direction is a function of the portion of said hemispherical light source which shines upon said point.

10. The method of claim 9 wherein said light intensity is a function of the portion of said hemispherical light source which shines upon said point.